

CLAIMS

1. A method for producing a micro-particle dry powder comprising a viral particle, comprising the steps of:
 - spray-drying a mixture of the viral particle and a stabilising carbohydrate
- 5 using an outlet temperature of no more than 60°C.
2. The method according to claim 1, wherein the stabilising carbohydrate is trehalose.
3. The method according to claim 1 or claim 2, wherein the concentration of the carbohydrate is from 2% w/v to 70% w/v.
- 10 4. The method according to any preceding claim, wherein the concentration of the carbohydrate is from 30% w/v to 60% w/v.
5. The method according to any preceding claim, wherein the concentration of the carbohydrate is from 40% w/v to 55% w/v.
- 15 6. The method according to any of claims 1-3 wherein the concentration of the carbohydrate is from 6% w/v to 12% w/v.
7. The method according to any preceding claim, wherein the spray dryer has an outlet temperature from 20 to 40°C.
- 18 8. The method according to any preceding claim wherein the feed rate of the spray dryer is from 0.05 to 2 g/min.
- 20 9. The method according to any preceding claim wherein the spray dryer nozzle-tip configuration is from 1 bar 10L/sec to 3 bar 30L/sec.
10. The method according to any preceding claim, wherein the spray dryer nozzle-tip configuration is 1.5 bar 14L/sec.
- 25 11. The method according to any of claims 1 to 9, wherein the spray dryer nozzle-tip configuration is 3 bar 22L/sec.
12. The method according to any preceding claim wherein the drying air pressure is from 1.5 bar to 3 bar.
13. The method according to any preceding claim wherein the drying air flow rate is from 4.8L/sec to 8L/sec.
- 30 14. The method according to any preceding claim wherein the atomisation air flow rate is from 0.10 to 0.6L/sec.
15. The method according to any preceding claim wherein the virus is an envelope virus.

16. The method according to any preceding claim wherein the virus is measles.

17. A virus-containing micro-particle dry powder obtainable by the method of any of claims 1 to 16.

5 18. A virus-containing micro-particle dry powder according to claim 17, wherein each micro-particle is suitable for deep lung deposition.

19. A virus-containing micro-particle dry powder according to claim 17, wherein each micro-particle is suitable for bronchiolar and upper pulmonary tract deposition.

10 20. A virus-containing micro-particle dry powder according to claim 17, wherein the powder is suspended in a non-aqueous medium.

21. A virus-containing micro-particle dry powder according to claim 20, wherein the non-aqueous medium is a perfluorocarbon.

15 22. A virus-containing micro-particle dry powder according to claim 20, wherein the non-aqueous medium is an oil, selected from the group consisting of:

sesame oil, arachis oil, soya oil, mineral oil and ethyloate.

23. A virus-containing micro-particle dry powder according to claim 20, wherein the non-aqueous medium is selected from the group consisting of:

20 glycerol, ethylene glycol, propylene glycol, propylene oxide and polypropylene glycol.

24. A virus-containing micro-particle dry powder according to claim 17, for use in a method of therapy.

25 25. The use of a virus-containing micro-particle dry powder according to claim 17, in the manufacture of a vaccine for the treatment or prevention of a viral infection.

26. The use according to claim 25, wherein the infection is measles.

27. The use according to claim 26, wherein the powder is processed in the form of a tablet or capsule.

30 28. A sachet comprising a micro-particle dry powder according to claim 17.